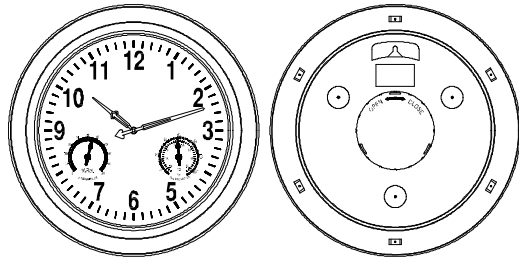


# RADIO CONTROLLED ANALOG CLOCK

## INSTRUCTION MANUAL

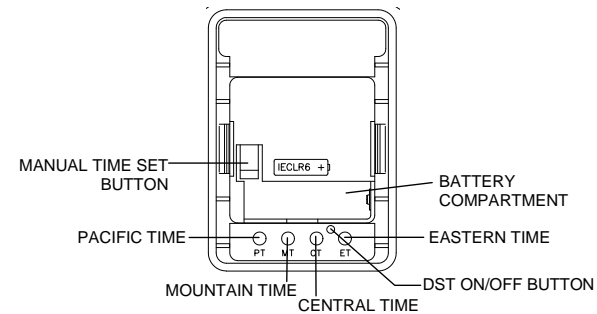
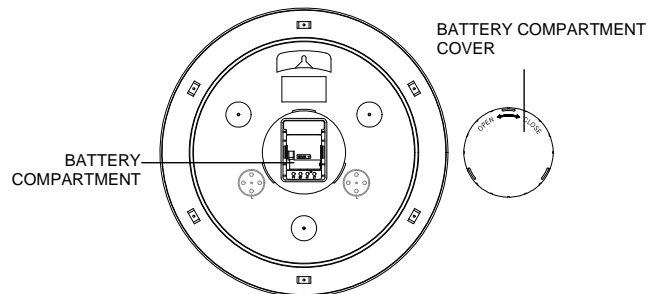
### Quick set up instructions

Welcome to the world of atomic timekeeping technology. We hope you will enjoy the convenience of never having to set your clock again and the confidence of knowing exactly what time it is.



- Twist and lift open the battery compartment cover at the back of the clock and insert 1 fresh AA, LR6 1.5 volt ALKALINE battery according to the polarity marked on the case.
- Once the battery is installed, the clock will begin searching for a signal. For the initial setting, it is recommended to stand the clock in an upright position near a window. Within five minutes the clock will either receive the WWVB signal and set itself to the exact time (for the default Pacific Time Zone), or it will determine that the signal is not receivable at its current location and time of day. If a signal is not receivable, it will fast-forward the hands to the 4, 8, or 12 o'clock position and search for WWVB every two hours until a signal is received. If the time is manually set, the clock will continue to periodically search for a signal and automatically reset the hands when the signal is received.
- Press time zone button to select a time zone after the clock received the WWVB signal. If you are in the Pacific Time Zone- you are ready to hang your clock. If you are not in the Pacific Time Zone, select your time zone by pressing one of the four time zone buttons PT-Pacific Time, MT-Mountain Time, CT-Central Time, ET-Eastern Time. If multiple buttons are pressed, the clock will set to the time zone selected last. If no time zone is selected the clock will default to Pacific Time. If you live in an area that does not recognize DST (Arizona and Indiana) you must press the (unmarked) DST button for one second to deactivate your clock's DST program. For time zones outside of PT, MT, CT or ET you must manually set the time using the Manual Time set button on the back of the movement. (See instructions below).
- Replace the battery compartment cover.

**THAT'S IT! During the night your clock will automatically set itself.**



For a better understanding of how and why your clock works please continue reading.

### NOTHING IS MORE PRECISELY MEASURED THAN TIME!

And nothing keeps track of time more precisely and trouble free than La Crosse Technology atomic clocks.

Since the beginning of time, man has been fascinated with the measurement of time and has devised more accurate machines to trap and measure time. Today, time is precisely measured in the United States by the most accurate clock in North America, the Atomic Clock of the US National Institute of Standards and Technology, Time and Frequency Division in Boulder, Colorado. A team of atomic physicists continually measures every second of every day to an accuracy of ten billionths of a second per day. These physicists have created an international standard, measuring a second as 9,192,631,770 vibrations of a Cesium 133 atom in a vacuum. This atomic clock regulates the WWVB radio transmitter located in Fort Collins, Colorado, where the exact time signal is continuously broadcast throughout the United States at 60 kHz to take advantage of stable long wave radio paths found in that frequency range. Radio waves at these low frequencies use the earth and the ionosphere as a wave-guide and follow the curvature of the earth for long distances.

The built in antenna system will receive the WWVB signal anywhere in North America within 2000 miles of Fort Collins where long-wave radio reception is undisturbed. A microprocessor activates the receiver and processes the time signal from Fort Collins overnight.

Through the radio signals, La Crosse Technology atomic clocks always keep precise time. The changeover from standard time to daylight saving time, and vice versa, takes place automatically with the same precision.

### ADDITIONAL DETAILS

To set up your clock simply install one fresh AA, LR6 ALKALINE battery. Due to the nature of long wave radio signals it is normally not possible to receive a signal during the day so it is best to install the battery late in the evening. Select your time zone by pressing one of the four time zone buttons PT-Pacific Time, MT-Mountain Time, CT-Central Time, ET-Eastern Time. The time zone buttons may be pressed any time after installing the batteries. If multiple buttons are pressed the clock will set to the time zone selected last. If no time zone is selected the clock will default to Pacific Time. Another time zone can be selected during or after the clock has set itself. Your clock can only set itself to one of the four time zones stated above. For time zones outside of PT, MT, CT or ET you must manually set the time using the Manual Time set button on the back of the movement.

Once the battery is installed the clock will begin searching for a signal. For the initial setting it is recommended to stand the clock in an upright position near a window. Within five minutes the clock will either receive the WWVB signal and set itself to the exact time, or it will determine that the signal is not receivable at its current location and time of day. If a signal is not receivable it will fast-forward the hands to the 4, 8, or 12 o'clock position and search for WWVB each even numbered hour until a signal is received. If the time is manually set the clock will

continue to periodically search for a signal and automatically reset the hands when the signal is received.

The La Crosse Technology atomic clock is designed for indoor or outdoor use. For indoor locations, select a location to place your radio controlled clock where it will be at least six feet away from a TV, computer, air conditioner or other household electrical appliances. The optimal location is near a window. Windows facing Colorado provide the best signal. For outdoor locations, try to select a location sheltered from direct sunlight and rain, preferably under a roof or porch area, and facing Colorado for better reception of the WWVB signal.

**Note:**

- Do not submerge clock in water.
- Extreme temperatures, vibration, and shock should be avoided to prevent damage to the clock.

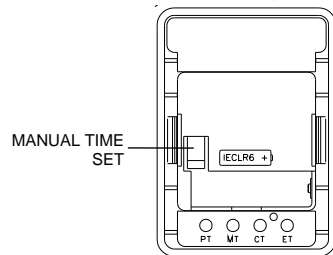
The WWVB time signal will easily penetrate masonry and wood framed buildings. The WWVB signal will penetrate almost every residential building and most steel buildings if they have adequate windows. It is not possible, however, for the WWVB signal to penetrate most indoor shopping malls and rooms in the center of large office buildings that do not have windows. In buildings that WWVB cannot penetrate you may set the time using the manual time set button. When the clock receives the WWVB signal it will automatically set the hands to the exact time.

La Crosse Technology atomic clocks do not receive or process radio controlled time signals from Germany's DCF 77, Japan's J Ga AS, or England's MSFs atomically regulated transmitters. La Crosse Technology atomic clocks can be manually set and used anywhere.

*For more information on the NIST and radio controlled time, see [www.boulder.nist.gov/timefreq/](http://www.boulder.nist.gov/timefreq/)*

**SET THE TIME USING THE MANUAL TIME SET BUTTON**

In some cases, the La Crosse Technology atomic clock may not receive the WWVB signal due to atmospheric disturbances or hard to reach locations such as inside shopping malls. In this case, please use the Manual Time Set button, located at the back of the clock to manually set the time. To do this:



1. Press and hold the Manual Set button.
2. Release the Manual Set button and again press and hold the Manual Set button. The minute and hour hands will fast-forward while the button is held.
3. Keep holding the Manual Set button until the time is set as required.
4. Release the button. About 3 seconds later, the second hands will start to move and the clock is now running with manual time.

**Note:**

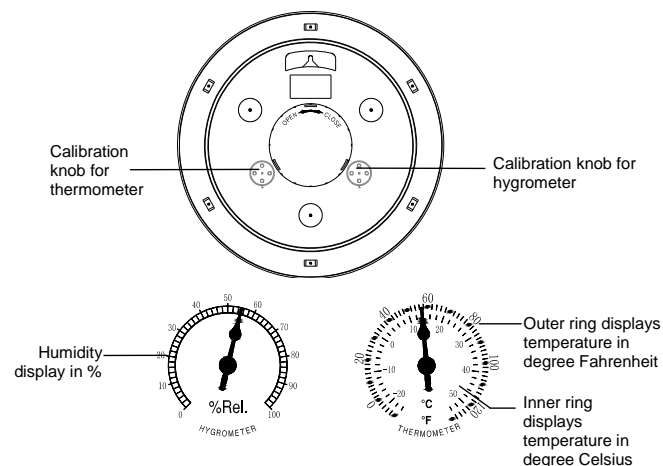
When the clock displays manual time, it will continue to try to receive the WWVB signal at each of the even numbered hours: 0:00, 2:00, 4:00, 6:00 ... 20:00 & 22:00.

**TEMPERATURE AND HUMIDITY**

The La Crosse Technology atomic clock has two analog sensors that measure surrounding temperature and humidity. The temperature information is displayed in degrees Fahrenheit and Celsius, and humidity data is displayed in percentage.

The thermometer and hygrometer have been calibrated in factory. To check the sensors accuracy, tune to your local weather forecast information broadcast for the latest weather information. It may be necessary to adjust the sensors.

To manually adjust the sensors, gently turn the corresponding knobs located at the back of the clock until required data has been reached.



**TROUBLESHOOTING**

The wonderful advantage of owning a La Crosse Technology atomic clock is that it is virtually trouble free. If the clock receives a clear signal it will set itself perfectly. If it does not receive a signal consider the following:

- Battery** - The La Crosse Technology atomic clock must have a fresh battery to receive and process the time signal.
- Location** - Try a different location, ideally near a window. It should be at least six feet from computers, TVs, air conditioners, other atomic clocks and other electrical appliances that cause interference.
- Weather** - Electrical storms between you and Colorado during the night will interfere with the WWVB signal.
- Reception** - **The clock seems to "take off" for no reason and then stopping at the same time.**  
It is not uncommon for the clock to make a "correction", sometimes daily. This happens if the clock gets ahead of itself by a fraction of a second. To correct this the clock will advance a complete rotation the next time it receives a signal.

**DAYLIGHT SAVING TIME**

The National Institute of Standards and Technology and WWVB encode a special DST "bit" in the WWVB transmission for DST. Your La Crosse Technology clock will read this information and automatically advance the hands one hour in the spring and eleven hours in the fall.

**ARIZONA**

If you live in an area that does not recognize DST you must press the (unmarked) DST button for one second to deactivate your clock's DST program. To reactivate the DST program simply press the DST button again for one second.

**FREQUENTLY ASKED QUESTIONS**

- Q. How long will the battery last?*  
A. A good AA alkaline battery will last over one year. If your clock is located in an area with little interference where it can quickly receive a signal the battery can last much longer than one year.
- Q. Can a La Crosse Technology atomic clock be used outdoors?*  
A. Yes, but only in a dry environment and in a temperature range between -10 °F and 131 °F. The clock is NOT water-resistant.
- Q. Can the La Crosse Technology atomic clock be wired to control timing circuits?*  
A. No.

## BATTERIES CHANGE:

For best performance, batteries should be replaced at least once a year to maintain the best running accuracy. Ensure that the batteries used are new and the correct size.



**Please help in the preservation of the environment and return used batteries to an authorized depot.**

## WARRANTY INFORMATION

La Crosse Technology, Ltd provides a 1-year limited warranty on this product against manufacturing defects in materials and workmanship.

This limited warranty begins on the original date of purchase, is valid only on products purchased and used in North America and only to the original purchaser of this product. To receive warranty service, the purchaser must contact La Crosse Technology, Ltd for problem determination and service procedures.

Warranty service can only be performed by a La Crosse Technology, Ltd authorized service center. The original dated bill of sale must be presented upon request as proof of purchase to La Crosse Technology, Ltd or La Crosse Technology, Ltd's authorized service center.

La Crosse Technology, Ltd will repair or replace this product, at our option and at no charge as stipulated herein, with new or reconditioned parts or products if found to be defective during the limited warranty period specified above. All replaced parts and products become the property of La Crosse Technology, Ltd and must be returned to La Crosse Technology, Ltd.

Replacement parts and products assume the remaining original warranty, or ninety (90) days, whichever is longer. La Crosse Technology, Ltd will pay all expenses for labor and materials for all repairs covered by this warranty. If necessary repairs are not covered by this warranty, or if a product is examined which is not in need or repair, you will be charged for the repairs or examination.

The owner must pay any shipping charges incurred in getting your La Crosse Technology, Ltd product to a La Crosse Technology, Ltd authorized service center.

Your La Crosse Technology, Ltd warranty covers all defects in material and workmanship with the following specified exceptions: (1) damage caused by accident, unreasonable use or neglect (including the lack of reasonable and necessary maintenance); (2) damage occurring during shipment (claims must be presented to the carrier); (3) damage to, or deterioration of, any accessory or decorative surface; (4) damage resulting from failure to follow instructions contained in your owner's manual; (5) damage resulting from the performance of repairs or alterations by someone other than an authorized La Crosse Technology, Ltd authorized service center; (6) units used for other than home use (7) applications and uses that this product was not intended or (8) the products inability to receive a signal due to any source of interference.

This warranty covers only actual defects within the product itself, and does not cover the cost of installation or removal from a fixed installation, normal set-up or adjustments, claims based on misrepresentation by the seller or performance variations resulting from installation-related circumstances.

LA CROSSE TECHNOLOGY, LTD WILL NOT ASSUME LIABILITY FOR INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR OTHER SIMILAR DAMAGES ASSOCIATED WITH THE OPERATION OR MALFUNCTION OF THIS PRODUCT. THIS PRODUCT IS NOT TO BE USED FOR MEDICAL PURPOSES OR FOR PUBLIC INFORMATION. THIS PRODUCT IS NOT A TOY. KEEP OUT OF CHILDREN'S REACH.

This warranty gives you specific legal rights. You may also have other rights specific to your State. Some States do not allow the exclusion of consequential or incidental damages therefore the above exclusion of limitation may not apply to you.

For warranty work, technical support, or information contact:

La Crosse Technology, Ltd  
2809 Losey Blvd S.  
La Crosse, WI 54601  
Phone: 608.782.1610  
Fax: 608.796.1020

e-mail:  
[support@lacrossetechnology.com](mailto:support@lacrossetechnology.com)  
(warranty work)

[sales@lacrossetechnology.com](mailto:sales@lacrossetechnology.com)  
(information on other products)

web:  
[www.lacrossetechnology.com](http://www.lacrossetechnology.com)

All rights reserved. This handbook must not be reproduced in any form, even in excerpts, or duplicated or processed using electronic, mechanical or chemical procedures without written permission of the publisher.

This handbook may contain mistakes and printing errors. The information in this handbook is regularly checked and corrections made in the next issue. We accept no liability for technical mistakes or printing errors, or their consequences. All trademarks and patents are acknowledged.